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July 14, 2009

The Honorable Chairman and Members of
the Hawaii Public Utilities Commission
Kekuanaoa Building
465 South King Street, 1st Floor
Honolulu, Hawaii 96813

Dear Commissioners:

RE: Docket No. 2008-0303
Advanced Metering Infrastructure Project
Consumer Advocate's Responses to Information Requests

In accordance with the *Order Approving Stipulated Procedural Order, as Modified*, filed on April 21, 2009, enclosed for filing are the Consumer Advocate's responses to the information requests submitted by the Hawaiian Electric Companies[1] and the joint information requests submitted by the Hawaii Renewable Energy Alliance and the Hawaii Solar Energy Association.

Sincerely yours,

Catherine P. Awakuni
Executive Director

Attachments

cc: Hawaiian Electric Companies
Henry Q. Curtis (Life of the Land)
Warren S. Bollmeier II (HREA)
Mark Duda (HSEA)

[1] The "Hawaiian Electric Companies" are Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company, Limited.

DOCKET NO. 2008-0303

HAWAIIAN ELECTRIC COMPANY, INC.,
HAWAII ELECTRIC LIGHT COMPANY, INC., AND
MAUI ELECTRIC COMPANY, LTD.

DIVISION OF CONSUMER ADVOCACY'S RESPONSE TO HECO COMPANIES' INFORMATION REQUESTS

HECO/CA-IR-1 **Ref: CA-T-1, page 12, lines 2-10.**
Please provide additional detail regarding the distinction between the need for an AMI System and the need for the AMI project that the Companies have proposed in their application.

RESPONSE: It is the Consumer Advocate's contention that utility companies should clearly identify the objectives or goals for each measure or project that it may be proposing in any given application. The identification of those objectives and/or goals will then help to define the need, which should then make it easier for a company to explain how the proposed measure or project helps to meet that need.

In this particular instance, it would seem that the need for the project should be largely influenced by the Energy Agreement and the objectives of the Energy Agreement. Thus, in defining the need for the AMI project as proposed, or even in general perhaps, identifying the objectives and clearly tying those objectives back to the goals of the Energy Agreement would seem to be a fundamental step. The Consumer Advocate is mindful that even though it is a signatory to the Energy Agreement, the Commission

is not. Therefore, sufficient support and justification should be provided to help the Commission reach a favorable ruling.

The Consumer Advocate is aware of various factors that are generally supportive of efforts to implement an AMI solution. Some examples of those factors are:

- the possibility of federal stimulus funds being used to help finance an AMI project;
- the belief that programs relying on tariffs coupled with AMI technology, such as time-of-use and/or certain demand response programs, can be effective tools to help manage concerns such as conservation and system reliability;
- Certain AMI solutions may prove cost effective, where realizable benefits exceed the associated capital investment and O&M costs;
- AMI technology is evolving to overcome problems or concerns that existed with earlier developmental stages of AMI;
- AMI is an integral part of any intent to develop a smart grid; and
- the general belief that AMI technology may provide a useful medium through which consumers can be further educated about the impacts that consumer use has on the system.

While the factors identified above as well as other factors discussed elsewhere might generally support the perception that an AMI system is reasonable, I contend that any utility company's AMI project plans should be much more specific in terms of the objectives and goals to be targeted and also how the proposed project will help to meet those goals and objectives.

The Companies' application did not clearly provide the connection between the purported objectives and the proposed AMI system. While the Companies identified various objectives, most of those objectives could arguably be met by other AMI solutions as well as possibly being met through other alternatives that do not involve AMI. Thus, to help justify the proposed AMI project, the Companies should provide the necessary discussion and support to justify the significant investment and costs associated with the proposed project as opposed to a general justification for AMI functionality.

DOCKET NO. 2008-0303

HAWAIIAN ELECTRIC COMPANY, INC.,
HAWAII ELECTRIC LIGHT COMPANY, INC., AND
MAUI ELECTRIC COMPANY, LTD.

DIVISION OF CONSUMER ADVOCACY'S RESPONSE TO HREA'S AND HSEA'S JOINT INFORMATION REQUESTS

HREA/HSEA-DTIR-1 HREA/HSEA thank the CA for a comprehensive review and assessment of the HECO Companies' request for approval of their proposed AMI/TOU Program. We observe that the CA stopped short of an overall endorsement AMI/TOU proposal, citing a number of concerns in your testimony. We share these concerns, e.g., there isn't a clear statement of the goals and we have questions about the details of cost/benefit analysis that has been provided by the HECO Companies. Given that, we ask the CA to comment on the need for an overall AMI/TOU Design and Implementation Plan to be prepared by the HECO Companies, vetted by the Parties in the instant docket and submitted for approval to the Commission before proceeding further. We suggest the plan include the following elements:

1. a clear statement of needs, goals and objectives related to the Hawaii Clean Energy Initiative, e.g., AMI to: (i) support customer education, TOU, inclined block rates, demand response, etc., and (ii) integration of these applications into the program,

2. an ongoing review of: (i) AMI and Smart Grid Technology, given that the technology appears to be evolving at a rapid rate, and (ii) cost/benefit analyses of options,

3. an evaluation of AMI and Smart Grid technology standards activities on the mainland and in appropriate international jurisdictions, and an assessment as to how these standards activities can inform the proposed plan for Hawaii,

4. how can AMI/TOU and the Smart Grid best be delivered to all our islands, including pilot TOU applications to gather information for further evaluation and planning,

5. A clear statement of how the HECO Companies' AMI/TOU proposal integrates with the rest of the smart grid plan to enable the interconnection of more renewable generation,

6. a revise [sic] teaming arrangement based on competitive bidding, and

7. a revised budget and timeline.

RESPONSE: In general, the Consumer Advocate agrees that a thorough and comprehensive business plan that identifies all applicable direct and indirect costs as well as all quantifiable and non-quantifiable benefits as part of an overall analysis that supports any major capital expenditure to be prudent. Adequate up-front planning can often lead to minimizing the overall project costs. The need for through up-front planning seems very applicable to the instant project where there is expected interaction with other systems (such as the new Customer Information System) and the need for such upfront planning is highlighted by the probability of the proposed AMI project being an integral part of the transition to a smart grid, whose plans are not yet clearly defined. It is the general philosophy of the Consumer Advocacy that it is the applicant's burden of proof to justify the reasonableness of the requested relief.

Of the seven topics identified in the information request, it appears that the Companies have attempted to already address some of them in its application and may not have addressed others. The proposed "overall AMI/TOU Design and Implementation Plan" may be an effective means by which consensus might be reached assuming that consensus is a preferred or required objective in the development of an overall plan. It should be noted that the Energy

Agreement required the Companies to file a "full application to install advanced meters" by December 31, 2008. Thus, it may be that the Companies chose not to initiate an effort to have interested stakeholders participate in a thorough vetting of a design and implementation plan in order to meet the deadline set forth in the Energy Agreement.

HREA/HSEA should seek out the Companies' willingness to enter into a collaborative process to develop such a plan and make such a recommendation to the Commission. At this time, based on existing facts and known circumstances, the Consumer Advocate would not object to such a recommendation.

HREA/HSEA-DTIR-2 In its assessment of the Companies' proposed technology, pages 17 to 22, did the CA consider the survivability of system equipment alternatives, e.g., proposed AMI network, leased towers, versus RF mesh and powerline carrier technologies, to extreme weather conditions such as hurricanes and other storm wind conditions and earthquakes? Please explain.

RESPONSE: No, I did not directly consider such factors. As mentioned in my direct testimony, it does not appear that the Companies had conducted comprehensive pilot tests of the commercially available and feasible technologies. Thus, I did not have the necessary data to conduct such analyses.

I note that if such an analysis were to be conducted, there are other data sets that would become necessary to include in the analysis and some of those data sets would cause the results to become subjective and more prone to dispute. For instance, if survivability due to extreme or extraordinary events were included, estimates related to the probability of those events would need to be considered as well as the appropriate weight to apply to those estimates. In comparison, survivability as well as operability of the technologies in Hawaii's specific environmental conditions (e.g., high levels of salt near shorelines, high humidity, etc.) may not introduce as much subjectivity.

HREA/HSEA-DTIR-3 Referencing the last paragraph on page 33 lines 13 to 18, HREA/HSEA were surprised at the long payback periods of 13, 17, and 20 years for implementation of AMI on HECO, MECO, and HELCO, especially given the life expectancy of 15 years for the meters. Does the CA believe it is prudent to approve the AMI should be approved [sic] with such long paybacks? Please explain.

RESPONSE: The Consumer Advocate generally questions the prudence of any project that have payback periods exceeding the expected useful lives of the major components of the project. This is applicable in the instant proceeding, where it appears that, even if the Companies' estimates are adopted without adjustment, the payback periods would exceed the expected useful lives of the meters (15 years) and the recovery period for the software/hardware (12 years). Furthermore, as reflected in my testimony, there are concerns that the payback period may be even longer than asserted by the Companies. Since some of the purported benefits that the Companies quantified were "soft" benefits, I am concerned that these purportedly quantifiable benefits would not be realized and passed on to the consumers. If these benefits are not realizable in the form of a reduction to the "hard" costs of the project, the project's cost effectiveness and payback period would be adversely affected.

That being said, however, I contend that a project's payback period is one factor that should be considered in evaluating the reasonableness of any project and that a project's payback period does not need to be less than the expected useful life of the project

in order to be found reasonable. Similarly, just because a project's payback period is less than its expected useful life does not guarantee a finding that the project is reasonable and in the public interest. For those projects with payback periods exceeding the expected useful life, though, a well defined plan with sufficient details regarding the probable and possible benefits should be presented. Additionally, if public policy or other determinants, such as legislative requirements, support the need for a project, the existence of such external factors may be sufficient to outweigh the finding that the payback period exceeds the expected useful life of a project.

At this time, however, it does not appear that the Company has provided sufficient support to justify the project as currently proposed. If the project were approved as is, I am concerned that such a finding would not be in the public interest.

HREA/HSEA-DTIR-4 Referencing the discussion of TOU rates on pages 45 to 46, has the CA evaluated the efficacy of application of TOU rates to all customer classes? Please comment as to whether the CA believes it might be appropriate to apply inclining rate block rates to residential and small-commercial users, while reserving TOU for larger customers? Please explain.

RESPONSE: The evaluation of the TOU rates was conducted as part of the analysis in Docket No. 2008-0083. Furthermore, it is my understanding that the Energy Agreement included a provision that as part of the process to implement AMI quickly, TOU rates would be applicable to each customer with advanced meters unless that customer opted out of TOU rates. In addition, I did not have sufficient data to evaluate the efficacy of TOU rates to all customer classes.

As articulated in the Statement of Position in Docket No. 2008-0074, the Consumer Advocate has some concerns regarding programs, such as TOU, that may result in certain subsets of customers that may be affected adversely by some common energy efficiency or demand response programs. Customers in these subsets may find themselves unable to alter their consumption patterns sufficient to either take receive rebates or lower unit costs and may instead be charged higher rates than before. There is insufficient data to support the assertion that the proposed TOU rates are at the optimal levels.

As it relates to the proposed application of inclining block rates to residential and small-commercial users, different concerns

may be associated with such a proposal. For instance, "ohana" living arrangements are quite common in Hawaii. In these homes, two or more generations or families may be sharing a single meter in order to live cost effectively. If inclining block rates are applied to these types of families, the affected families might be able to reduce some of its electricity usage, but their ability to modify their consumption patterns will not be as significant as a single-family that consumes just as much electricity as the ohana family.

In addition, the primary or most urgent objectives of the utility company or its regulators should be identified in order to determine what measure or measures might be most effective. For instance, if the target is to reduce peak usage, it is my general impression that inclining block rates will not be as effective as TOU to encourage consumption to be shifted from peak to non-peak. On the other hand, if the main target is to reduce overall consumption without regard to time of use, inclining block rates might be more effective than TOU.

Other considerations might also be applicable. For instance, if the costs of the project are somewhat prohibitive because of the costs associated with meters, infrastructure, software licenses, etc. associated with every residential and small commercial customers receiving advanced meters and the opportunity to take advantage of AMI and alternative tariff structures, it might be useful to consider

the impacts of scaling back the roll-out of AMI and to determine whether it is in the public interest to install AMI meters for every customer. I am aware that the Energy Agreement requires the Companies to propose a plan that results in each customer being *able to receive an advanced meter to take advantage of possible* future measures that may be available, but it might be useful to help support the reasonableness of the proposed project if the Companies were to provide some analysis that justifies the aggressive roll out of AMI meters to each customer.